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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/882,415	06/25/97	ZHANG S	MIT-7762

HM21/0708

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EXAMINER	
ACHUTAMURTHY, P	

ART UNIT	PAPER NUMBER
1648	6

DATE MAILED: 07/08/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 03/882,415	Applicant(s) Zhang et al
	Examiner P. Achutamurthy	Group Art Unit 1648

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *THREE* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-21* is/are pending in the application.

Of the above, claim(s) *20 and 21* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-19* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *5*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-19, drawn to a composition comprising self-assembled peptide monolayers on a support and a method of making the same, classified in class 436, subclass 518.

II. Claim 20, drawn to a method of culturing cells, classified in class 435, subclass 240.23.

III. Claim 21, drawn to a method of assaying the presence of a target molecule, classified in class 435, subclass 7.1.

The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the claimed composition of Group I may be used in a materially different process such as screening for target molecule that bonds to the peptides on the monolayer. .

Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the

product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the composition of Group I can be used in a materially different process such as culturing cells on the peptide monolayer..

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and/or because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with attorney Edgar W. Harlan, Jr. on July 6, 1998 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20 and 21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

It is noted, however, that in the event the claims of the elected group (composition) become allowable, the examiner will reconsider the restriction requirement with a view to join the method claims with the composition claims.

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

This application contains an a amino acid sequence identified by Sequence ID No. 1, see page 23, line 5. However, this application fails to comply with the requirements for patent applications containing nucleotide and/or amino acid sequence disclosures. See the attached "Notice to Comply".

The attempt to incorporate subject matter into this application by reference to foreign patents or Journal articles is improper because incorporation by reference of essential material is permitted only for issued US patents and allowed US applications..

The use of the trademark has been noted in this application. See for example page 22, Example 1 ("Sylgard"). It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

Rejection A

Claims 6, 9, 11, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, "presenting group" is deemed to be vague and indefinite.

In claims 9, 1, and 13, Markush groups are not properly recited. It is suggested to use a format such as "selected from the group consisting of".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Rejection B

Claims 1-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Wang et al (Chem. Abstracts, volume 125, abstract NO. 257089b). The reference clearly teaches peptide monolayers formed on a substrate which are of the recited type.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Rejection C

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (cited in rejection B above) in view of Kumar et al (US patent 5,512,131)..

Wang et al teach a substrate comprising self assembled monolayers of peptides, see the abstract.

Kumar et al teach a method for the formation of monolayer assemblies on solid surfaces using a microstamping techniques substantially similar to the method recited in the instant claims. This references also teaches that a variety of molecular species that can be bonded onto a variety

of solid supports including metals and organic polymers. Among the molecular species those contributing or comprising peptide (amide linkages are taught. See the entire document in general but particularly the following locations; column 8, line 16 to column 14, line 15. The molecular species may be bonded onto the solid substrate by means of a stamp having a predetermined pattern which can be treated with a solvent in which the molecular species are dissolved; see column 15, lines 19-51.

The difference between Wang et al and the instant claims is that the reference fails to teach the formation of the monolayers by using a stamp having a predetermined pattern on a substrate and forming the monolayers by a microstamping technique.

It would have been obvious to one having ordinary skill in the art at the time of invention to have obtained self assembled peptide monolayers as taught by Wang et al and use a microstamping technique to from the monolayers as suggested by Kumar et al because Kumar et al teach that their microstamping method can be used to attach a variety of molecular species to a solid substrate and this would have provided a motivation to use the microstamping method for forming the monolaywr assemblies of Wang et al.

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to **Group Art Unit 1648.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to P,. Achutamurthy whose telephone number is (703) 308-3804. The examiner can normally be reached on Monday-Thursday from 7:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald E. Adams, Ph.D., can be reached on (703) 308-0570. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

PONNATHAPURA ACHUTAMURTHY
PRIMARY EXAMINER
GROUP 1800

pa
July 6, 1998

Application No. 08/862,415

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821 - 1.825 for the following reason(s):

☑ 1. This application clearly fails to comply with the requirements of 37 CFR 1.821 - 1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.

☑ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 CFR 1.821(c).

☑ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked-up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 CFR 1.821(e).

☐ 7.

Other: _____

Applicant must provide:

☑ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing"

☑ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification

☑ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 CFR 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d)

For questions regarding compliance with these requirements, please contact:

For Rules Interpretation, call (703) 308-1123
For CRF submission help, call (703) 308-4212
For PatentIn software help, call (703) 557-0400

Please return a copy of this notice with your response.